

REMARKS

By this Amendment, claim 1 is amended and claim 17 is added. After entry of this amendment, claims 1-17 will remain pending in the patent application. Reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested.

Claim 1 was amended only to clarify the recited subject matter without the intention of narrowing or otherwise changing the scope of the claims. Claim 17 was added to further recite the invention

Claims 1-13 and 16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The rejection is respectfully traversed.

With respect to claims 1, 11, and 16, the Examiner stated that the terms “exposure” and “exposing” are not clear. Claim 1 has been amended to further recite the invention and makes clear that the exposure process recited in the claim refers to a radiation exposure process. The terms “exposure” and “exposing” in themselves are not intended to be limited to any one of a fluid or a radiation exposure process but are applicable to both, depending upon the context and in accordance with their plain meanings. In claim 1, “exposure” is qualified to refer to exposure of radiation while in claims 11 and 16, “exposing” is qualified by “to a fluid” to refer to exposing the area of the substrate to a fluid. Accordingly, Applicants respectfully submit that claims 1, 11, and 16 are definite.

The Examiner further rejected claim 1 on the grounds that the word “different” is not clear. Applicants have amended the claim and respectfully submit that claim 1 is definite.

In the second paragraph from the bottom of page 2 of the Office Action, the Examiner asks two general questions without identifying the specific language in claims 1, 11, and 16 that cause the confusion. First, the Examiner asks whether the substrate and the fluid interact and cause a process to take place without being exposed to the projection beam. In response, Applicants refer, for example, to the language of claim 11, which clearly recites that an area of the substrate is processed “by exposing it to a fluid that interacts therewith to effect a process. . . wherein the area of the substrate does not include the target portion” (claim 16 contains similar language).

The Examiner then asks what such a process might establish as opposed to exposure to the projection beam. Although Applicants are uncertain as to how the Examiner’s comments relate to the rejections under § 112, second paragraph, attention is directed to page 1, line 18, through page 3, line 7, of the specification, in which examples are provided and describe a

fluid interacting with a substrate to carry out one or more various processes. Such examples include: a chemical reaction with the substrate surface or compounds thereon; removal of part of the substrate or compounds thereon; addition of compounds to the substrate; washing; or modification of the surface or atomic or electronic structure of the substrate or compounds adhered thereto. Various processes are disclosed as occurring without being exposed by the projection beam.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-13 and 16 under § 112, second paragraph.

Claims 11 and 16 were rejected under 35 U.S.C. § 102(b) based on Garner (U.S. Patent Application Publication No. US 2002/0041420 A1). The rejection is respectfully traversed.

Regarding claim 11, the cited portions of Garner do not disclose, teach, or suggest a device manufacturing method comprising, *inter alia*, processing an area of a substrate by exposing it to a fluid that interacts therewith to effect a process, wherein the area of the substrate does not include the target portion and the projecting and processing are carried out at least partially simultaneously. Although no portions of Garner have been cited for support with respect to this aspect of claim 11 (the discussion in the Office Action of April 27, 2006, repeats that of the Office Action of December 15, 2005, and does not address the actual language recited in claims 11 or 16), Applicants respectfully submit that Garner merely discloses providing a photoactivatable fluid to a substrate that only reacts upon being exposed by radiation. Thus, the cited portions of Garner do not disclose, teach, or suggest exposing an area of a substrate to a fluid that interacts therewith, wherein the area does not include the target portion of the projected radiation. The fluid of Garner is catalyzed by the radiation and does not interact unless it is at a "site or sites where light strikes the substrate" (page 4, paragraph [0034]). Claim 11 is therefore patentable over Garner.

Regarding claim 16, the cited portions of Garner do not disclose, teach, or suggest a device manufacturing method comprising, *inter alia*, processing an area of a substrate by exposing it to a fluid that interacts therewith, the area of the substrate not including the target portion, wherein the projecting and the processing steps are carried out at least partially simultaneously. As similarly discussed above with respect to claim 11, the cited portions of Garner do not disclose, teach, or suggest this limitation. Claim 16 is therefore patentable over Garner.

Accordingly, reconsideration and withdrawal of the rejection of claims 11 and 16 under 35 U.S.C. § 102(b) based on Garner are respectfully requested.

Claims 1-16 were rejected under 35 U.S.C. § 103(a) based on Garner in view of U.S. Patent Application Publication No. US 2004/0043494 to Amorese et al. ("Amorese"). The rejection is respectfully traversed.

Regarding claim 1, the cited portions of Garner do not disclose, teach, or suggest a lithographic projection apparatus comprising, *inter alia*, a fluid processing cell configured so that different areas of the substrate may be subjected to different fluid processes simultaneously or to a fluid process and a radiation exposure process simultaneously. The Examiner cites to Figure 3 of Garner for support for this aspect of the claim. However, Figure 3 does not show, and the corresponding disclosure does not explain, a processing cell configured so that different areas of the substrate being subjected to different fluid processes simultaneously or a fluid process and a radiation exposure process simultaneously. Rather, the cited portions of Garner disclose "flooding a reaction chamber 50" prior to catalyzing a reaction with radiation (page 4, paragraph [0034] of Garner). Thus, different areas of the substrate are not subjected to different processes simultaneously, as claimed. Further, as acknowledged by the Examiner, Garner does not disclose, teach, or suggest the fluid processing cell comprising a plurality of separate chambers in communication with respective areas of a substrate. As a result, Applicants respectfully submit that claim 1 is patentable over Garner.

Amorese does not cure the deficiencies of claim 1. Applicants respectfully submit that there is no motivation or suggestion to combine Garner and Amorese in the cited references or in the knowledge of one skilled in the art. The cited portions of Garner pertain to the flooding of a reaction chamber with a photoactivatable fluid and subsequent exposure to radiation while the cited portions of Amorese relate to an apparatus for studying arrays by creating separate chemical reactions. There is no suggestion that the chemical array used for simply conducting chemical reactions and studying them as disclosed in the cited portions of Amorese may be used in a lithography device. The Examiner stated that the motivation is to prevent unintended chemical reaction in order to support the combination. Applicants respectfully submit that such an interest is not relevant to the device of Garner, and one of skill in the art would not be motivated to combine the references since such an array is incompatible and in direct opposition to the thrust of the teachings in Garner related to the fluidics system, which makes up a key element of the disclosure. The fluidics system of Garner is specifically designed to deliver photoreactive reagents to flood a single reaction chamber in proper sequence in accordance with commands given by a computer system (paragraphs [0027] and [0031]) and to cause the reagent in the chamber to react by striking it with radiation. There is no motivation

to prevent unintended chemical reactions within the reaction chamber since there is only one reagent or one precisely controlled mixture of reagents delivered thereto at any given time. The device Amorese is simply inapposite to and incompatible with that of Garner and, therefore, one of skill in the art would not have been motivated to combine the teachings. As a result, Applicants respectfully submit that claim 1 is patentable over Garner and Amorese, alone or in combination.

Claims 2-10 are patentable over the combination of Garner in view of Amorese by virtue of their dependency from claim 1 and for the additional features recited therein.

For similar reasons as discussed above, the cited portions of Garner do not disclose, teach or suggest claim 11. The Examiner has not cited any portions of Amorese in support of a teaching of that which is lacking in Garner, namely, processing an area of a substrate by exposing it to a fluid that interacts therewith to effect a process, wherein the area of the substrate does not include the target portion and the projecting and processing are carried out at least partially simultaneously, as claimed. As a result, claim 11 is patentable over Garner and Amorese, alone or in combination.

Claims 12 and 13 are patentable over the combination of Garner in view of Amorese by virtue of their dependency from claim 11 and for the additional features recited therein.

Regarding claim 14, for similar reasons discussed above regarding claim 1, Applicants respectfully submit that there is no motivation or suggestion to combine Garner and Amorese in the cited references or in the knowledge of one skilled in the art. The cited portions of Garner pertain to the flooding of a reaction chamber with a photoactivatable fluid and subsequent exposure to radiation while the cited portions of Amorese relate to an apparatus for studying arrays by creating separate chemical reactions. The device of Amorese is inapposite to and incompatible with that of Garner and, accordingly, one of skill in the art would not have been motivated to combine the teachings. As a result, Applicants respectfully submit that claim 14 is patentable over Garner and Amorese, alone or in combination.

Claim 15 and new claim 17 is patentable over the combination of Garner in view of Amorese at least by virtue of their dependency from claim 14 and for the additional features recited therein.

For similar reasons as discussed above with respect to claim 11, the cited portions of Garner do not disclose, teach or suggest claim 16. The Examiner has not cited any portions of Amorese in support of a teaching of that which is lacking in Garner, namely, processing an area of a substrate by exposing it to a fluid that interacts therewith, the area of the substrate not including the target portion, wherein the projecting and processing steps are carried out at least

partially simultaneously, as claimed. As a result, claim 16 is patentable over Garner and Amorese, alone or in combination.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-16 under 35 U.S.C. § 103(a) based on Garner in view of Amorese and allowance of new claim 17 are respectfully requested.

Applicants have addressed all the Examiner's rejections and objections and respectfully submit that the application is in condition for allowance. A notice to that effect is earnestly solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

  
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